

In the Claims:

Claims 1 to 7 (Canceled).

1 8. (Currently amended) A milling method for the production of
2 a structural component from at least one material that is
3 difficult to machine by chip-cutting, while producing
4 depressions with at least one sidewall, whereby a milling
5 tool is moved along at least one defined tool path for the
6 milling, characterized in that, in addition to the or each
7 tool path, at least one collision contour respectively
8 corresponding to the surfaces or edges a surface or an edge
9 of the at least one sidewall is defined and the position or
10 orientation of the milling tool along the or each tool path
11 relative to the or each collision contour is monitored
12 in an automated comparison of the or each tool path with
13 the or each collision contour, whereby and then the
14 position or orientation of the milling tool is changed
15 and/or an error message is generated if at least one of the
16 collision contours is damaged by the milling tool, and
17 whereby the or each collision contour relates to the
18 structural component to be produced.

1 9. (Previously presented) The method according to claim 8,
2 characterized in that the position or orientation of the
3 milling tool along the or each tool path relative to the
4 structural component to be milled are determined by a tool

5 vector, whereby the tool vector is defined with a cutting
6 advance angle and a pitch angle of the milling tool.

1 10. (Previously presented) The method according to claim 8,
2 characterized in that, for the milling of the depressions
3 that are bounded by two of the sidewalls, two collision
4 contours are defined, of which a first collision contour
5 lies on a first said sidewall and a second collision
6 contour lies on a second said sidewall.

1 11. (Previously presented) The method according to claim 10,
2 characterized in that, when the milling tool damages the
3 collision contour that lies on the sidewall that is
4 currently to be milled, the position or orientation of the
5 milling tool is changed so that the damage of the collision
6 contour is removed.

1 12. (Previously presented) The method according to claim 11,
2 characterized in that a pitch angle of a tool vector is
3 increased for changing the position or orientation of the
4 milling tool so that the damage of the collision contour is
5 removed.

1 13. (Previously presented) The method according to claim 10,
2 characterized in that, when the milling tool damages the
3 collision contour that lies on the sidewall lying opposite

4 the sidewall that is currently to be milled, an error
5 protocol and/or an error message is generated.

1 14. (Previously presented) The method according to claim 13,
2 characterized in that the error protocol is used for the
3 dimensioning of the milling tool.

1 15. (Previously presented) The method according to claim 13,
2 characterized in that the error protocol is used for
3 determining a miller diameter of the milling tool.

1 16. (Previously presented) The method according to claim 8,
2 characterized in that the structural component to be
3 produced is an integral bladed rotor for a gas turbine,
4 wherein the depressions form flow channels and the
5 sidewalls form blade surfaces of the integral bladed rotor.

1 17. (Previously presented) The method according to claim 8,
2 wherein the error message is generated if at least one of
3 the collision contours is damaged by the milling tool.

Claim 18 (Canceled).

1 19. (Currently amended) The method according to claim 8,
2 [[18,]] wherein each said ~~one-dimensional line in~~
3 ~~three-dimensional space~~ collision contour corresponds to
4 one of the edges of the component to be produced.

1 20. (Previously presented) The method according to claim 19,
2 wherein each said collision contour is respectively defined
3 by moving the milling tool along and in contact with a
4 respective one of the edges of the component to be
5 produced.

1 21. (Currently amended) A method of producing a milled
2 component by milling a raw material with a milling tool,
3 comprising the steps:

- 4 a) defining a proposed tool path along which said milling
5 tool will be moved to mill said raw material into a
6 desired milled shape of said milled component, wherein
7 said tool path defines the space that will be occupied
8 by said milling tool as said milling tool is moved to
9 mill said raw material;
- 10 b) defining at least one collision contour of said
11 desired milled shape of said milled component, wherein
12 each said collision contour establishes a respective
13 boundary which may not be crossed by said proposed
14 tool path to avoid damaging said desired milled shape;
- 15 c) comparing said proposed tool path with said at least
16 one collision contour to determine whether said
17 proposed tool path crosses said at least one collision
18 contour;
- 19 d) ~~generating a collision signal indicative of a~~
20 ~~collision if said proposed tool path is determined to~~

21 cross said at least one collision contour in said
22 step [[c);]] c), then generating a collision signal
23 indicative of a collision, and in response to said
24 collision signal, revising said proposed tool path to
25 thereby define a final tool path that will not cross
26 said at least one collision contour;
27 e) using said proposed tool path as a final tool path if
28 said proposed tool path is determined not to cross
29 said at least one collision contour in said step
30 [[c);]] c), then using said proposed tool path as said
31 final tool path; and
32 f) milling said raw material by moving said milling tool
33 along said final tool path to produce said milled
34 component.

1 22. (Previously presented) The method according to claim 21,
2 wherein said collision signal comprises an error message
3 indicating to an operating personnel that said collision
4 has been determined.

1 23. (Previously presented) The method according to claim 21,
2 wherein said collision signal comprises an error protocol
3 that is carried out if said collision has been determined.

Claim 24 (Canceled).

1 25. (Previously presented) The method according to claim 21,
2 wherein said step of defining said at least one collision
3 contour comprises moving said milling tool along and in
4 contact with at least one edge of a sample model that has
5 said desired milled shape of said milled component, wherein
6 said at least one edge thereby defines said at least one
7 collision contour.

Claim 26 (Canceled).

1 27. (Currently amended) The method according to claim 21,
2 [[26,]] wherein each said one-dimensional line collision
3 contour corresponds to an edge of said desired milled shape
4 of said milled component.

1 28. (New) The method according to claim 21, wherein said
2 comparing in said step c) is carried out as an automated
3 comparison.